Thermo Scientific
elemental analysis
ECS 1200

The Thermo Scientific ECS 1200 is a compact analyzer designed for laboratories performing an average number of Total Chlorine analyses. The ECS 1200 produces accurate data at ppm level due to the combination of a temperature controlled dual furnace, a turbo combustion quartz tube and a large scrubber for optimal conditioning of gas.

Advantages:
- Compact design saves bench space
- Maximum versatility with respect to liquid, solid and gas samples
- Low maintenance design
- Accurate and reliable data according to international standards

ECS 3000

The Thermo Scientific ECS 3000 is a sensitive, robust and cost effective analyzer and when equipped with one of the auto samplers it offers extremely reliable sub ppm level at a 24 hour based operation. This modular instrument saves bench space and reduces investment costs because of the fast and easy switching between the chlorine and sulfur detectors.

Advantages:
- High productivity results in low cost per analysis
- High stability, sensitivity and reliability due to a unique temperature controlled titration cell
- Maximum versatility with use of the gas, liquid and solid auto samplers.
- Low maintenance design assisted by optimal combustion and conditioning of gasses.
### Technical Specifications

| Dimension (ECS 1200) | 730 (W) x 365 (H) x 450 (D) mm  
|:---------------------|---------------------------------|
|                      | 29 (W) x 14 (H) x 18 (D) inches |
| Dimension (ECS 3000) | 1017 (W) x 390 (H) x 590 (D) mm  
|                      | 40 (W) x 15 (H) x 23 (D) inches |
| Furnace voltage      | 2 x 42 V, 50/60 Hz              |
| Furnace power        | 2 x 300 W                       |
| Furnace temp. sensor | 2 x Ni-Cr/Ni                    |
| Furnace temperature  | 1250 °C max.                    |
| Type of Analyses     | Total Chlorine                  |
| Type of Detector     | Microcoulometer                 |
| Software             | Windows™ based ThEuS analytical software |
| Output               | RS 232                          |
| Computer             | Minimum Pentium IV processor    |
| Compliance           | ASTM D4929, D5194, D5808        |
| Optional             | NeXYZ, Liquids auto sampler     |
|                      | ESA 2000, Solids auto sampler   |
|                      | EGM II, Gas & LPG introduction module |
|                      | Total Sulfur-Microcoulometric Technique, TS-UV module (ECS 3000 only) |

### Facility Requirements

| Voltage              | 115/230 V, 50/60 Hz |
| Power                | 1200 W max.        |
| Gas connector        | 1/8” Swagelok      |
| Gasses               | O₂ (99.6%) medical grade  
|                      | Ar or He (99.998%) technical grade |
| Gas pressure         | 1-3 Bar (14-45 psig) |
| Ambient temperature  | 15 – 35 °C         |

### Analytical Specifications

<table>
<thead>
<tr>
<th>Working ranges*:</th>
<th>ECS 1200</th>
<th>ECS 3000</th>
</tr>
</thead>
</table>
| Chlorine liquids       | 0.1 - 5000 mg/kg  
| Chlorine solids        | 0.5 - 5000 mg/kg  
| Sulfur MCT liquids     | 0.2 – 5000 mg/kg  
| Sulfur MCT solids      | 1 – 5000 mg/kg    |
| Quantity of sample     | 1-100 µl  
|                        | 1 – 250 µl        |
| Solids                 | 0.1 – 30 mg      
|                        | 0.1 – 100 mg     |
| Analysis time*         | 8-10 min.       
|                        | 6-8 min.         |
| Inaccuracy             | < 5%             |
| Legislation/protocols  | ASTM, IP, UOP   
|                        | ASTM, IP, UOP    |

**Total Sulfur P-UV**

| Sample matrix          | light/heavy hydrocarbons |
| Working range*         | 0.02 - 5000 mg/kg        |
| Inaccuracy             | < 5%                      |
| Legislation/protocols  | ASTM, IP, UOP            |

* Depends on typical applications

Visit [www.thermo.com/ceadealers](http://www.thermo.com/ceadealers) to find your local dealer.